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### Search History

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L4: Entry 9 of 16

File: USPT

Jan 28, 2003

DOCUMENT-IDENTIFIER: US 6512763 B1

TITLE: Method and apparatus for data routing, delivery, and authentication in a packet data network

Brief Summary Text (5):

E-mail service providers are a good example of such services that one may subscribe to in order to send and receive data over the Internet. E-mail service providers typically provide all of the hardware and software required to operate their service, and are typically a part of an Internet Service Provider's services. For example, a plurality of e-mail servers may be geographically distributed throughout the Internet at locations where local clients may dial-up a server and retrieve or send mail, which may include file attachments. Client software applications are generally configured to communicate with a server or servers local to the clients Internet service provider (OSP) through which the client connects to the network.

Brief Summary Text (20):

Software agents transmitted in lieu of data provide a way, for the first time, to select a best-fit route for data to a destination, and also to obtain secure and accurate destination validation. Accordingly, an agent can arrange with specifically anticipated or encountered servers for highly secure transmissions of extremely proprietary data if the agent can identify and negotiate the necessary protocols and passwords. Methods and apparatus for accomplishing the invention are described in enabling detail below.

Detailed Description Text (14):

Therefore, it is an object of the present invention to provide a software routing agent that is quite small in terms of packet size. This software routing agent, hereinafter termed agent, may be dispatched to a selected destination server over all conventionally chosen routes, and, because of it's small size, may return to the client quickly with information regarding the best routing. It may also have to negotiate in one or more regions special rights, against pay or other equitable exchanges. The agent may, for example, offer payment, service exchange or other value in order to receive better routing and or bandwidth other than least-cost routing (smooth path).

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US006512763B1

(12) **United States Patent**  
DeGolia, Jr.

(10) Patent No.: **US 6,512,763 B1**  
(45) Date of Patent: **\*Jan. 28, 2003**

(54) **METHOD AND APPARATUS FOR DATA ROUTING, DELIVERY, AND AUTHENTICATION IN A PACKET DATA NETWORK**

(75) Inventor: **Richard Case DeGolia, Jr.**, Los Altos, CA (US)

(73) Assignee: **Genesys Telecommunications Laboratories, Inc.**, Daly City, CA (US)

(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/524,768**

(22) Filed: **Mar. 14, 2000**

#### Related U.S. Application Data

(62) Division of application No. 09/146,630, filed on Sep. 3, 1998, now Pat. No. 6,181,692.

(51) Int. Cl.<sup>7</sup> ..... **H04L 12/66**

(52) U.S. Cl. .... **370/352; 370/238**

(58) Field of Search ..... **370/238, 230, 370/351, 352; 707/201; 709/229**

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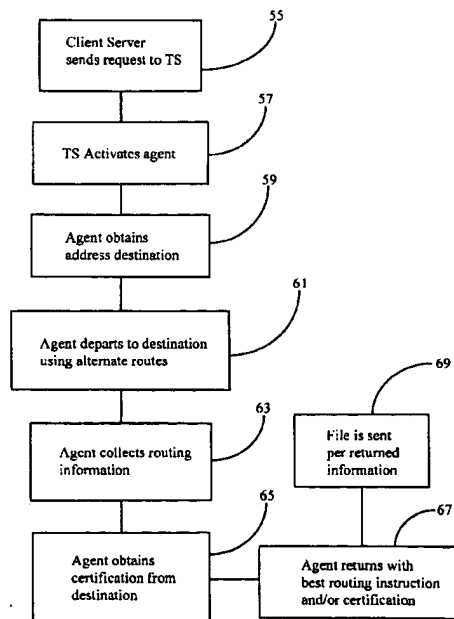
*Primary Examiner—Zarni Maung*  
*Assistant Examiner—Jungwon Chang*

(74) *Attorney, Agent, or Firm—Donald R. Boys; Central Coast Patent Agency, Inc.*

#### (57) ABSTRACT

A server connected to a data network for transmitting files over the data network to one of a plurality of destination servers is adapted to spawn a software agent in response to a file to be transmitted and meeting certain preset criteria, such as file size. The software agent is associated with the file by at least the file's destination, and is transmitted over one or more routes to the destination to collect routing information, and returns to the source server. The associated file is then transmitted using the information collected. In an alternative embodiment the agent also collects validation information at the destination and returns same to the source server. The agent may also, in some embodiments, negotiate reserved bandwidth and security protocols or other validation information for transmission of the associated file at certain intermediate servers.

**13 Claims, 3 Drawing Sheets**



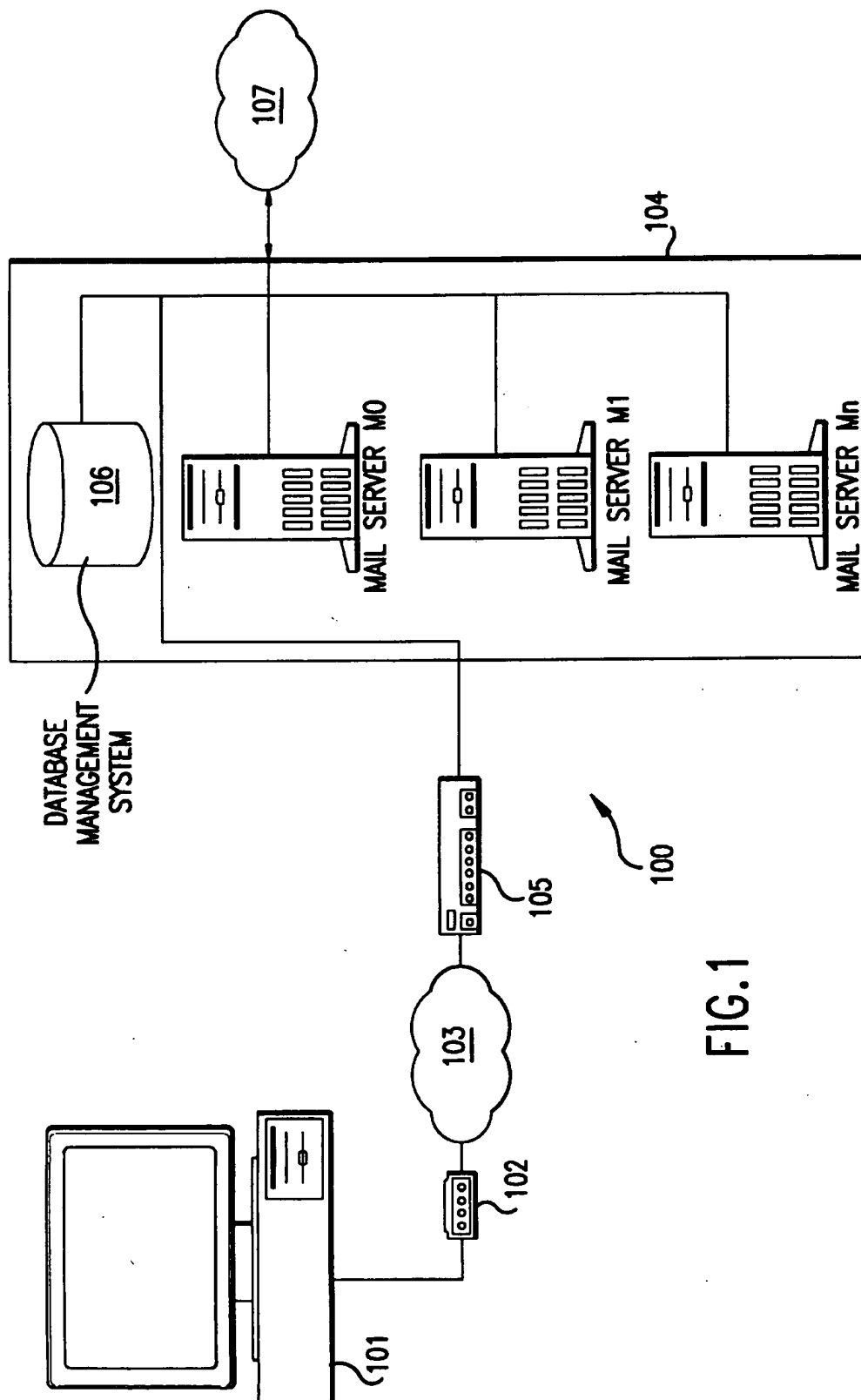


FIG. 1

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L4: Entry 16 of 16

File: USPT

Dec 8, 1998

DOCUMENT-IDENTIFIER: US 5848397 A

TITLE: Method and apparatus for scheduling the presentation of messages to computer users

Brief Summary Text (24):

In one embodiment, the scheduling criteria for the advertisements include the time to expiration, time since last seen, maximum exposures to a user, and percentage of exposures remaining. The scheduling criteria are selected with the goal of maximizing the revenue to the e-mail service provider, subject to a "no starvation" constraint, in view of the particular billing arrangements with the vendors associated with the advertisements.

Detailed Description Text (2):

The present invention is a scheduler system for use in controlling the selection, downloading and presentation of advertisements to users of a computer system. The invention is described in the context of an e-mail system having both client and server components. An advertisement display scheduler of the present invention is a client-based application, receives advertisements periodically from the server component, and determines when advertisements should be output. The server component includes an advertisement distribution scheduler, which determines the advertisements eligible for distribution to a user, and an advertisement download scheduler, which determines how and when advertisements are downloaded to the client system. The various components of these schedulers are described below, along with the underlying e-mail system in which these schedulers are incorporated.

Detailed Description Text (7):

Using the communications interface 102, the client system 101 selectively communicates with the server system 104 over the network 103 through a communications server 105. In the disclosed configuration, the communications server 105 couples the client system 101 to one of a plurality of mail servers M.sub.0 . . . M.sub.n that form the server system 104.

Detailed Description Text (72):

The advertisement distribution scheduler is located at the server system 104. The advertisement distribution scheduler generates an assignment of advertisements to users and their computers. For example, a particular advertisement for orange juice may be assigned by the advertisement distribution scheduler to all residents of New York City and all college students in Boston. Each advertisement has associated with it an ad contract which specifies a demographic profile reach and frequency, duration and time of expiry for the advertisement. The ad contract can be stored in the database management system 106. Using the information about each user received by the server system 104, the advertisement distribution scheduler assigns advertisements to users. In the representative embodiment, the advertisement distribution scheduler uses information received from the user via the member profile that is stored in the database management system 106 to allocated advertisements. Demographic information collected from other sources can also be used by the advertisement distribution scheduler. Thus, the advertisement distribution scheduler runs database selects on the user demographic information

stored in the database management system 106 to produce a list of users for each advertisement.

Detailed Description Text (73):

The advertisement distribution scheduler includes additional functionality that assists in the maximization of advertisement revenues and the minimization of system costs. For example, for each selected user, the advertisement distribution scheduler reviews (1) the usage profile of the user (e.g., statistical information collected in the statistics log file at the user's computer 101) to ascertain expected advertisement consumption over a predetermined period; and (2) the current advertisement load of the user and time to expiry. Thus, advertisements can be allocated to users who are more likely to be exposed to the advertisements prior to the expiration period of the advertisement.

CLAIMS:

41. The system of claim 39 further comprising, at the server system, a plurality of e-mail servers.

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US005848397A

**United States Patent** [19]

Marsh et al.

[11] **Patent Number:** 5,848,397[45] **Date of Patent:** Dec. 8, 1998[54] **METHOD AND APPARATUS FOR SCHEDULING THE PRESENTATION OF MESSAGES TO COMPUTER USERS**[75] Inventors: **Brian D. Marsh; Jon D. McAuliffe,**  
both of New York, N.Y.[73] Assignee: **Juno Online Services, L.P.,** New York,  
N.Y.

[21] Appl. No.: 636,745

[22] Filed: **Apr. 19, 1996**[51] Int. Cl.<sup>6</sup> ..... **G06F 17/60**[52] U.S. Cl. .... **705/14; 705/26; 705/30**[58] Field of Search ..... **705/1, 7, 8, 9,**  
**705/10, 14, 26, 27, 30; 707/10, 501, 573;**  
**345/326, 327, 329, 339, 340, 343, 344,**  
**347; 395/200.3, 200.31, 200.33, 200.42,**  
**200.43, 200.47, 200.49, 200.7**[56] **References Cited****U.S. PATENT DOCUMENTS**

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(List continued on next page.)

*Primary Examiner*—Stephen R. Tkacs  
*Attorney, Agent, or Firm*—Kenyon & Kenyon

[57] **ABSTRACT**

The present invention provides a method and apparatus for scheduling the presentation of a continuously-changing display to computer users, and is particularly well-suited for use in an advertisement-supported e-mail service. An advertisement display scheduler resident on a user's computer receives advertisements from a server system over a network. Upon receipt, the advertisement display scheduler determines the priority of the advertisement and assigns it to one of a plurality of prioritized advertisement queues. Each queue is sorted according to predetermined scheduling criteria so that advertisements deemed "more important" are presented to a user first. The advertisement display scheduler logs statistical information relating to the presentation of advertisements for use in updating the scheduling criteria, and makes such statistical information available to the server system.

**48 Claims, 8 Drawing Sheets**